



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,015	06/05/2007	Kenji Kuwahara	58306US004	9101

  

32692	7590	01/18/2008
3M INNOVATIVE PROPERTIES COMPANY		
PO BOX 33427		
ST. PAUL, MN 55133-3427		

  

EXAMINER	
LEUNG, QUYEN PHAN	

  

ART UNIT	PAPER NUMBER
2874	

  

NOTIFICATION DATE	DELIVERY MODE
01/18/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com  
LegalDocketing@mmm.com

**UNITED STATES DEPARTMENT OF COMMERCE****U.S. Patent and Trademark Office**

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10535015	6/5/2007	KUWAHARA ET AL.	58306US004

3M INNOVATIVE PROPERTIES COMPANY  
PO BOX 33427  
ST. PAUL, MN 55133-3427

**EXAMINER**

Quyen P. Leung

ART UNIT	PAPER
2874	20080108

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

Please find attached a SUPPLEMENTAL EXAMINERS AMENDMENT that corrects for a typographical error in the first line of the EXAMINERS AMENDMENT mailed 01/04/2008. The SUPPLEMENTAL EXAMINERS AMENDMENT now correctly states that claims 8-14 are allowed, to match the information in the Notice of Allowance (PTO-37) mailed 01/04/2008.

/Quyen Leung/  
Quyen Leung  
Primary Patent Examiner  
Group Art Unit 2874

### SUPPLEMENTAL EXAMINER'S AMENDMENT

Claims 8-14 are allowed.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

- Claims 9-14 depend upon canceled claim 1. They have been amended to depend upon claim 8.

The following is an examiner's statement of reasons for allowance:

The cited prior art do not teach or fairly suggest an optical interconnection sheet comprising: (a) **at least one channel in which at least one optical fiber or an optical fiber ribbon cable can be inserted for use**; and (b) a layered structure for maintaining the at least one channel substantially in a two-dimensional plane by holding the channel in such a manner that **both ends of the channel at least reach respective edges of the optical interconnection sheet**.

The closest cited prior art Bonanni et al (US 5,204,925 or JP 07-281052) teaches an optical interconnection device that can easily form an optical connection between circuit packages and can easily replace a defective optical fiber with a new optical fiber. See figures 1-7.

However, Bonanni et al fails to teach the emboldened feature above that allows for easily replacing a defective optical fiber with a new optical fiber, by removing the entire defective fiber and then inserting a new one into the claimed channel. Note Bonanni et al's Figure 5 and col. 3 lines 22-40 which teaches how if fiber (20) were found to be defective a short piece of the cover layer (25) at the end of the tabs (12) is cut away exposing the fiber ends and the ends of defective fiber cut off. A new adhesive coated fiber (50) is placed on the top layer (25) overlying essentially the same position as the defective fiber (20).

Applicant's claimed invention, especially the emboldened features above allows the following advantageous benefits (see applicant's specification, pages 6-7): "For example, because the optical fiber is inserted in the channel, the inserted optical fiber can be removed if necessary. As a result, the optical fiber extending from the optical interconnection sheet need not be provided with an extra length. Also, because a defective fiber can be removed and a new optical fiber inserted, repairability in the fiber end processing improves, increasing the fabrication yield of the optical interconnection sheet..."

Other related art include: Dalgoutte (4,078,910) teaches glass sleeve fiber joining and suggests protecting the joint with heat shrink tubing fitted over the sleeve. Xu (4,923,268) teaches fiber optic coupler including heat shrinkable tubing. Dekeyser et al (5,066,095) teaches jointing box for optical fiber cables. Iapicco (5,185,840) teaches a branching method for a multifiber fiber optic cable. Sasaki et al (6,416,232) teaches device for optical interconnection. Sukegawa et

al (USP 6,567,603) which teaches an optical interconnection apparatus and process for fabrication of the same. Kawase (6,839,475) teaches optical connection component.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quyen P. Leung whose telephone number is (571) 272-8188. The examiner can normally be reached on normally M-F, 6:15 am - 2:45 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/535,015  
Art Unit: 2874

Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/  
Quyen Leung  
Primary Patent Examiner  
Group Art Unit 2874

qpl